

QUARTERLY PROGRESS REPORT

2024 - Q1



KELP FOREST
FOUNDATION

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Q1 HIGHLIGHTS



RESEARCH

We're excited to announce that through the generous support of [OceanKind](#), we are bringing together the expertise and innovative technologies of Cawthron Institute, NatureMetrics, and Sequench in a groundbreaking research that leverages advanced qPCR/ddPCR metabarcoding technology to identify the unique genetic markers of giant kelp.



OCEAN EDUCATION & SKILLS

The Blue House Fellowship Programme has welcomed the third cohort of MSc students. So far, Dorteia, Paula, and Sakarias have shown great progress in their research proposals and training.

To date, we have granted 8 MSc and 1 PhD scholarships to talented Namibian students.



RECICLAN NUTRIENTES Y PURIFICAN LAS AGUAS



PUBLIC AWARENESS

Samantha spoke at Congreso Futuro, the main annual scientific-humanist dissemination event in the Southern hemisphere, hosted in Chile. During her trip, she met the Chilean President and was also invited to speak on Radio Pauta about the importance of kelp forest ecosystems.



OTHER NEWS

This quarter, Lieschen Smith was appointed as Managing Director, while Samantha Deane continues as Founding Director, focusing on partnerships and fundraising. Xu Ben Zhang takes the role as Research Program Lead.





RESEARCH

Carbon - sediment baseline

Gadaffi Liswaniso has arrived at the King Abdullah University of Science and Technology (KAUST), Saudi Arabia, for an internship as part of his PhD research. His research aims to quantify the baseline level of organic carbon found in the sediments along the Luderitz coast. At KAUST, Gadaffi will analyse existing sediment cores taken from the seafloor and use that to quantify organic carbon levels present before kelp farming activities occurred. In the photo on the right, he is presenting his work to the lab in KAUST.



Carbon - biomarkers of giant kelp

Our new global research initiative, in partnership with Cawthron Institute, Sequench, and NatureMetrics, investigates the carbon sequestration role that kelp plays in our oceans using cutting-edge eDNA technology. This initiative is funded by OceanKind and aims to identify giant kelp DNA in sediment samples (by deciphering its unique 'fingerprint'), to establish a direct link between source and sink of these kelp habitats. This important research will contribute to conservation efforts for these globally crucial kelp habitats and encourage their re-forestation.

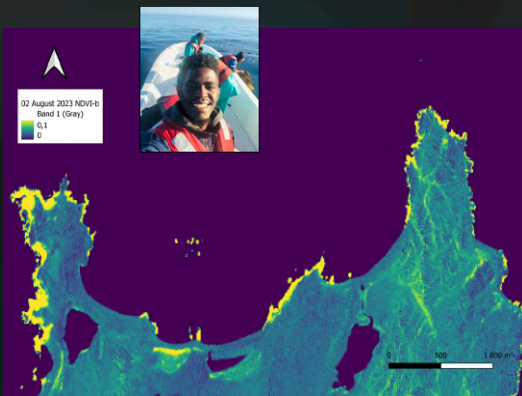
Daphne de Vré - Master's thesis analysing eDNA for biodiversity

Daphne is an MSc Marine Science student at Utrecht University, who dedicated her thesis to analysing the eDNA samples that KFF collected at Kelp Blue's Namibian kelp farm over the past 1,5 years. She analysed the data for patterns and trends across time and location, and mapped the food pyramid of the species observed in the eDNA. On the right, you can see the different trophic layers (i.e. levels in the food pyramid) and key species observed in the kelp forest, also highlighting the relative abundance per layer.



Review Paper submitted

Michael Mateus, KFF's scholar, submitted a review paper to Springer Nature Climatic Change, titled: The carbon sequestration potential and Net Primary Production (NPP) of cultivated giant kelp (*Macrocystis pyrifera*) in the context of climate change mitigation: A review. On the left, an image of his work on mapping the kelp canopy using satellite imagery.





OCEAN EDUCATION & SKILLS

Blue House Fellowship Programme - start of 3rd cohort

The 2024 cohort of the Blue House Fellowship Programme has arrived in Lüderitz, where they immediately dived into trainings (e.g. ISO Lab training, Safety at Sea), and worked on developing their research proposals. On the photo below, the ISO training with some Kelp Blue colleagues, and on the right, the new students with their respective research topic.



Sakarias Malyenge
Spawning & Nursery processes in the cultivated kelp forest

Dortea Hamukoto
Biodiversity of sessile species attaching to the kelp farm structure



Paula Sacheus
Buffering of ocean acidification within the cultivated kelp forest

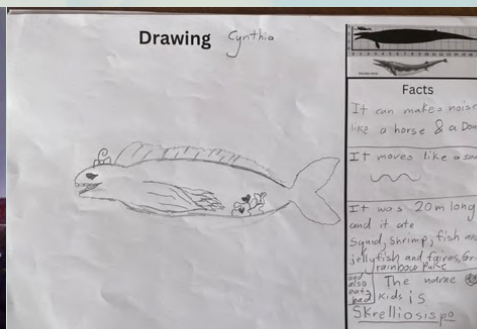


UNAM Supervisors visit

The University of Namibia professors that supervise our MSc students paid Lüderitz a trip to explore the research on Kelp Blue's cultivated kelp forests. They were shown around the Kelp Blue facilities on- and offshore: the hatchery, factory, as well as the cultivated kelp forest. The students also took the opportunity to present their work to all supervisors. The trip was a great success, leaving very proud supervisors who were very much impressed by Kelp Blue's and the Kelp Forest Foundation's work.

Ocean Education & Lüderitz Blue School

The Lüderitz Blue School has seen significant growth in student numbers this year. To accommodate all learners on extracurricular activities, the Ocean's Day, Robotics and other Clubs were expanded. The Strandcubs (the Ocean's Day programme for kids of 8-12) were taken out for a day of surfing. A visit to Kelp Blue's agricultural land taught them about composting and preparing the ground for a new season. One learner led a class on the *basilosaurus isis* - an ancient whale and ancestor of our current humpback whales, during which the children creatively designed their own whale species.





AWARENESS

CONGRESO FUTURO



Samantha, KFF's Founding Director, gave a "Ted-style" talk at the Congreso Futuro ("Future Congress") in Chile - the main annual scientific humanist dissemination event in the Southern hemisphere. The main topic of the Conference was Artificial Intelligence, but Samantha took the opportunity to highlight Nature's intelligence and the role of seaweed as a regenerative ocean-based opportunity instead. Her successful talk was held in front of over 600 people and was broadcasted live on Chilean TV.



Samantha participated in a round-table radio show about the potential of seaweed cultivation at Radio Pauta hosted by Amaro Gómez-Pablos, Gonzalo Muñoz Abogabir CMG and Daniela Silva Rodighiero.



Meeting the Chilean president Gabriel Boric



That same week, Samantha was asked to speak in a Seminar organized by Fundación Chile and Anglo American Chile titled: "Prospects for Blue Carbon in Chile" alongside with renown scientists Albert Pessarrodona, Alejandro Buschmann and Marcela Avila.



Monaco Ocean Week

Xu attended the Monaco Ocean Week - an annual event where local and international experts, the scientific community, associations and public authorities meet to work together on ocean conservation initiatives. The conference included many discussions on ocean carbon dioxide removal solutions, a workshop on putting seaweed on the agenda at the next UN Ocean Conference, and an Ocean Innovators Platform edition full of exciting ocean solutions.



OTHER NEWS



Welcoming Dr. Lieschen Smith as our Managing Director

With valuable experience that spans science, live broadcasting, wildlife filmmaking, and managing a successful tourism business, Lieschen brings her diverse expertise to our team as the new Managing Director. Known for her ability to build successful teams by combining diverse skill sets, she strives to support our mission of restoring our oceans with the power of kelp.

She holds a PhD in Molecular Biology & Genetics from the University of Cape Town and pursued a Postdoctoral Fellowship at the South African Tuberculosis Vaccine Initiative.

She is passionate about her family, friends, five dogs, obtaining her pilot license, and plant-based cooking.

Carly Kay - Science communications internship from Patagonia®



Carly Kay visited Kelp Forest Foundation all the way from the Californian coast to Amsterdam, to do her Environmental Internship as part of a Patagonia programme. Carly spent her two-month internship with us to focus on science communication and digital communications. Her great work has been very valuable, and the team is excited about these great cross-overs in the interest of kelp forests.



KELP FOREST FOUNDATION

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